Cancer Prevention Works

National and State Initiatives to Prevent Hepatitis B and Liver Cancer

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Presentation Objectives:

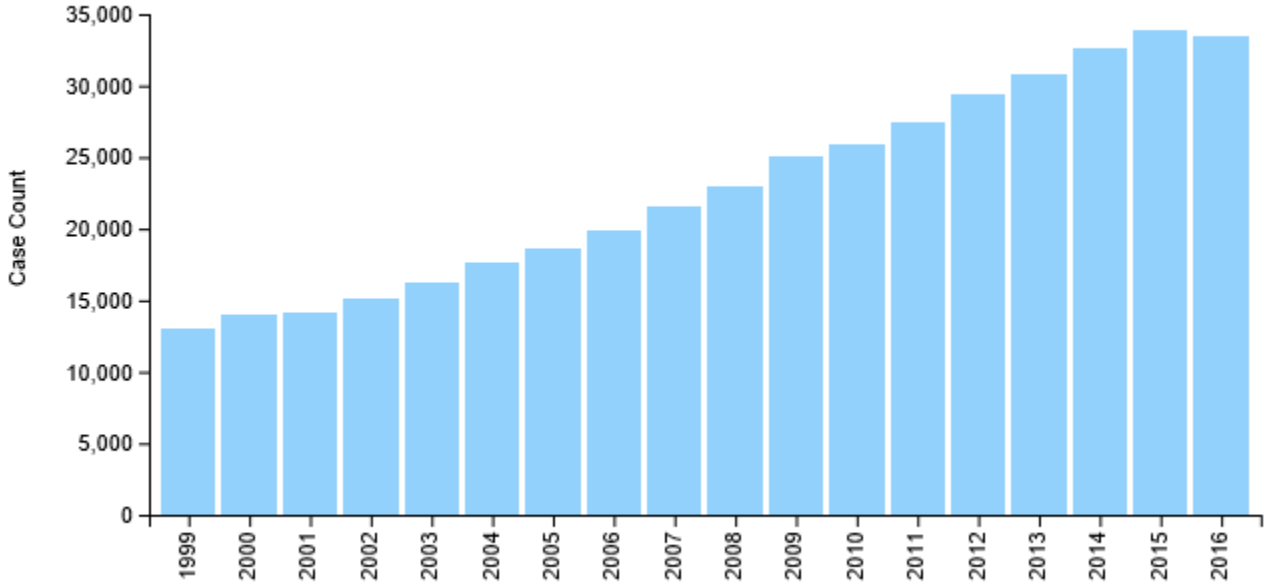
Knowledge and Awareness of Liver Cancer

- To provide the audience with background on liver cancer and its risk factors.
- To describe the priorities of CDC's National Comprehensive Cancer Control Program (NCCCP).
- To share the type of liver cancer interventions implemented by the Idaho Comprehensive Cancer Control Program (ICCCP).
- To share how each of the interventions implemented were evaluated to inform future implementation efforts.
- To disclose lessons learned, program needs, partnerships created, program facilitators, challenges, and key resources needed.

Background

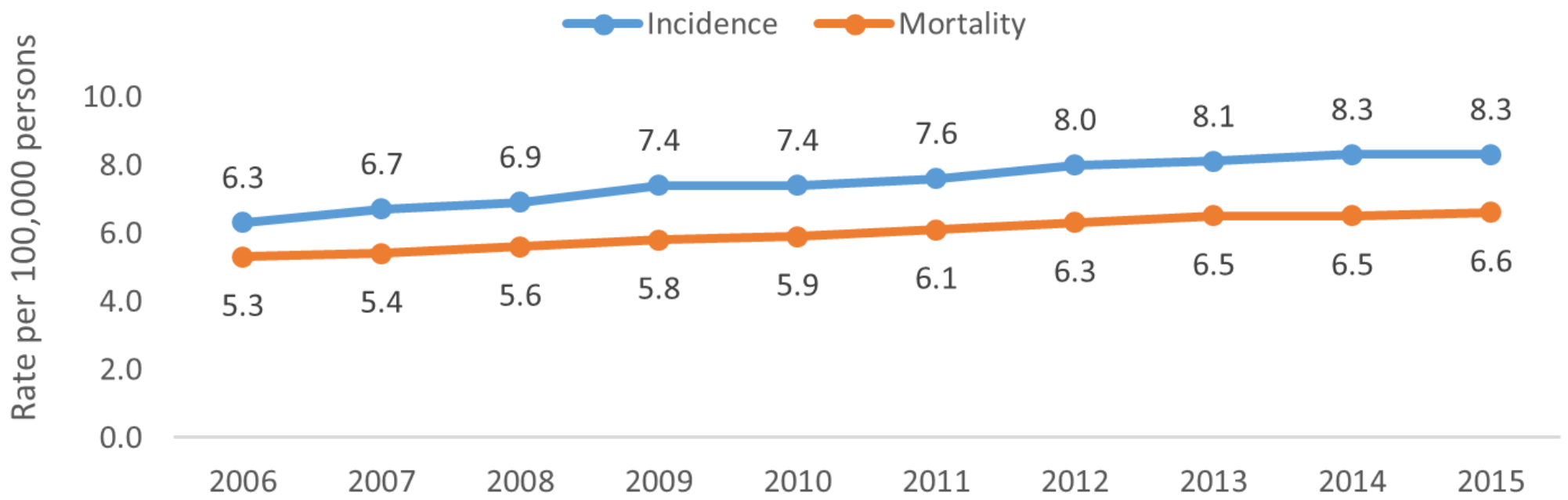
Annual Report to the Nation: Overall Cancer Mortality Continues to Decline

Annual Number of New Cancers, 1999-2016, United States



U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on November 2018 submission data (1999-2016): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; www.cdc.gov/cancer/dataviz, June 2019.

Liver and intrahepatic bile duct cancer incidence and mortality rates by year[a]—United States, 2006–2015

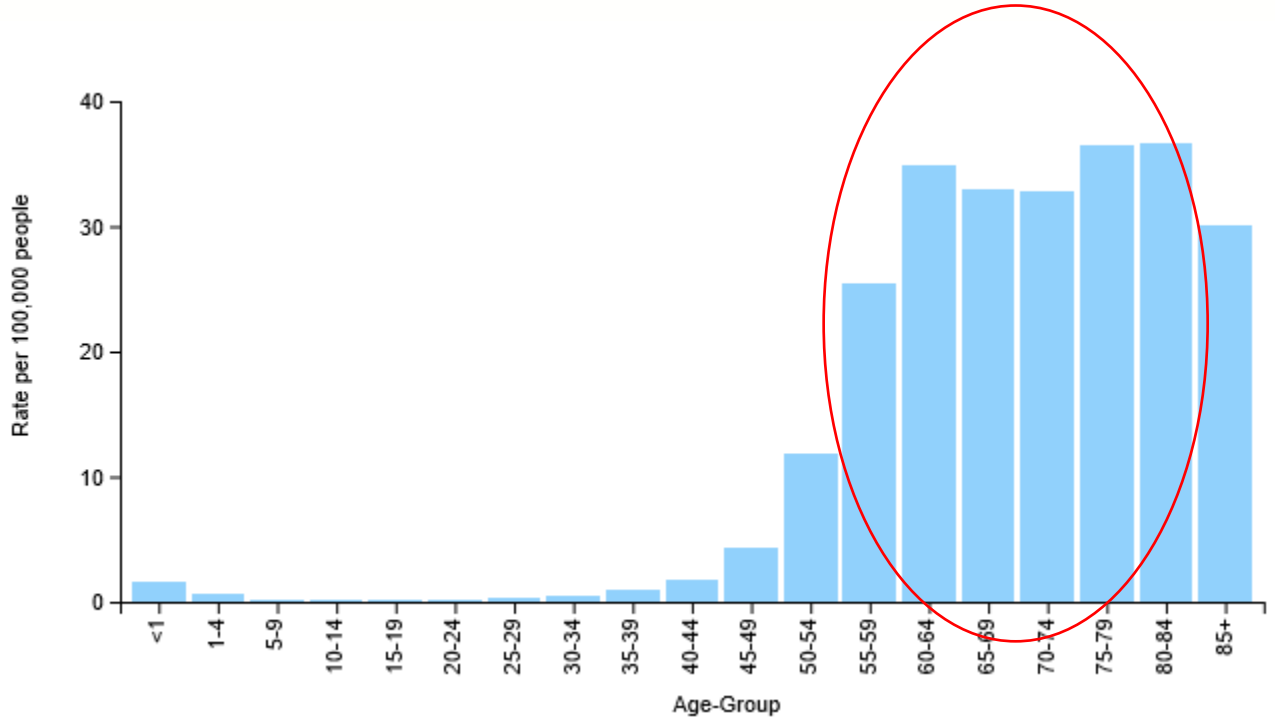


[a] Rates are the number of cases (or deaths) per 100,000 persons and are age-adjusted to the 2000 US standard population (19 age groups—Census 25–1130).

Who is it primarily affecting?

- The incidence rate varies by race, ethnicity and sex.
- Males have a 3X higher incidence rate than females.
- Asian/Pacific Islanders had the highest incidence in both males and females compared with other racial groups.
- Hispanics have higher incidence than non-Hispanics.

Rate of New Cancers by Age Group, All Races, Both Sexes



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Why?

Major Contributors

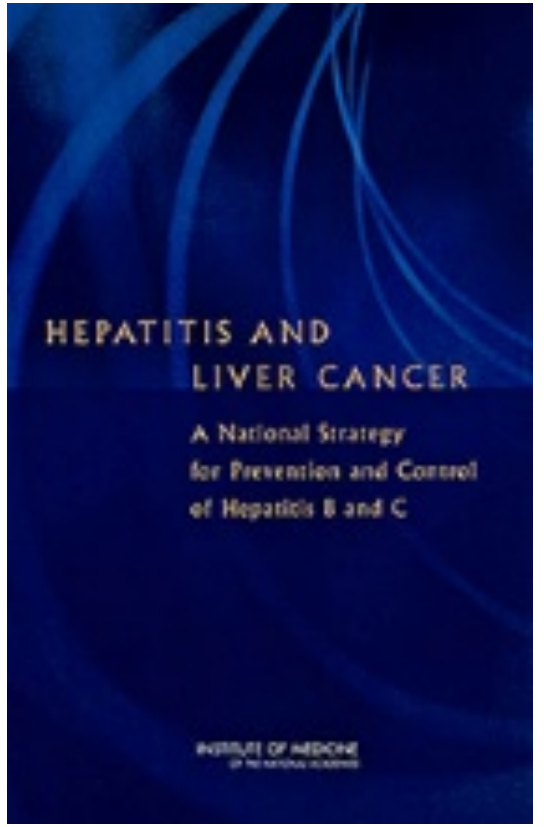
- The high prevalence of chronic hepatitis C virus (HCV) infection among "baby-boomers," or those born between 1945 and 1965, is a major factor contributing to the increase in hepatocellular carcinoma (HCC), the most common type of liver cancer.

- Other risk factors for HCC:
  - Obesity and type 2 diabetes, (as they relate to nonalcoholic fatty liver disease)
  - Chronic infection with hepatitis B virus (HBV)
  - Alcoholic cirrhosis

2010 Release of the National Academy Report

Key barrier to HBV and HCV prevention and control efforts include:

- Lack of knowledge and awareness about chronic viral hepatitis among healthcare providers, at-risk populations, and the public.



Recommendations for improving the prevention and control of chronic HBV and HCV

1. Improved viral hepatitis **surveillance**;
2. Improved **provider and community education to increase knowledge and awareness** of HBV and HCV;
3. Increased support for **vaccine-based strategies (immunization)** to eliminate HBV transmission; and
4. Integration and enhancement of **viral hepatitis services**, including risk factor screening and testing.

CDC’s National Comprehensive Cancer Control Program (NCCCP)

From the Beginning

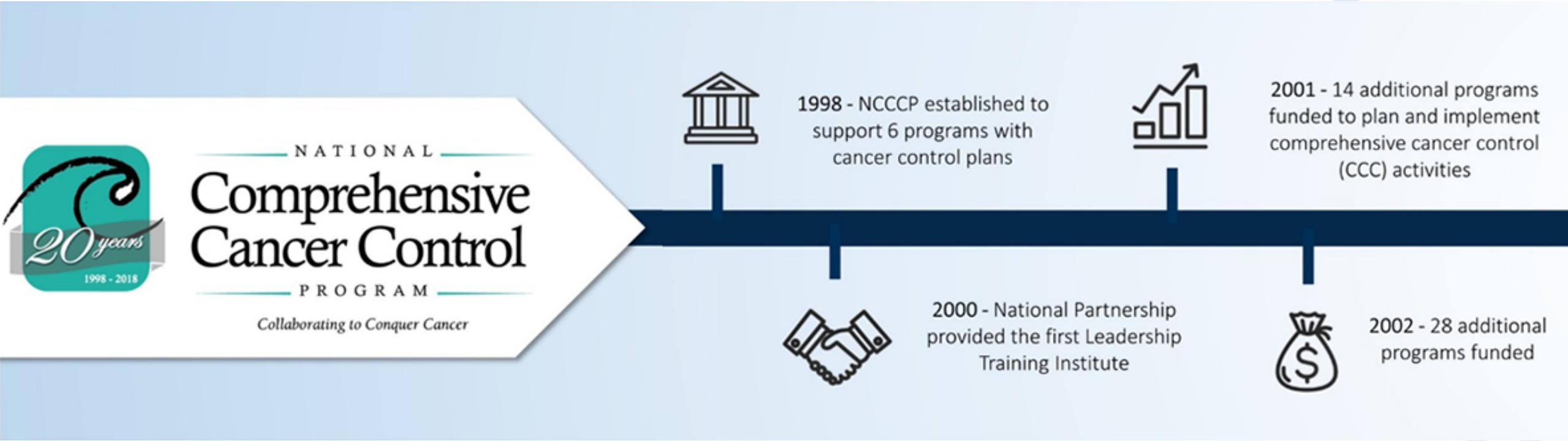
Established in 1998, NCCCP provides the funding, guidance, and technical assistance that programs use to design and implement impactful, strategic, and sustainable plans to prevent and control cancer.

69
Cancer Plans
Created & Updated
Since 1998

98,000+
People
Involved in Coalitions
Since 1998

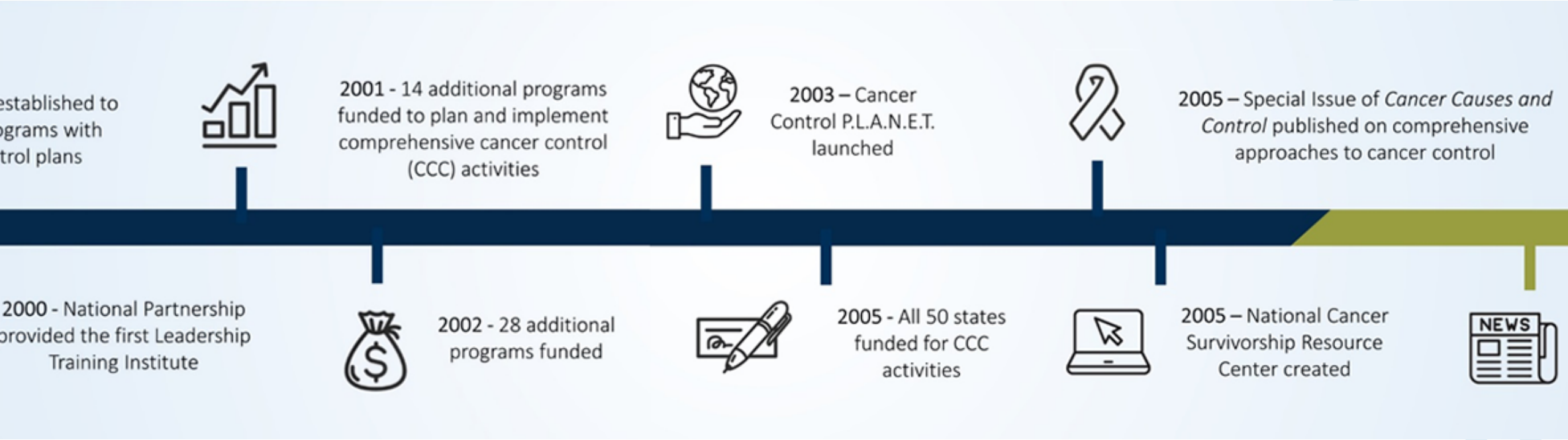
1998-2002

Historical Scroll



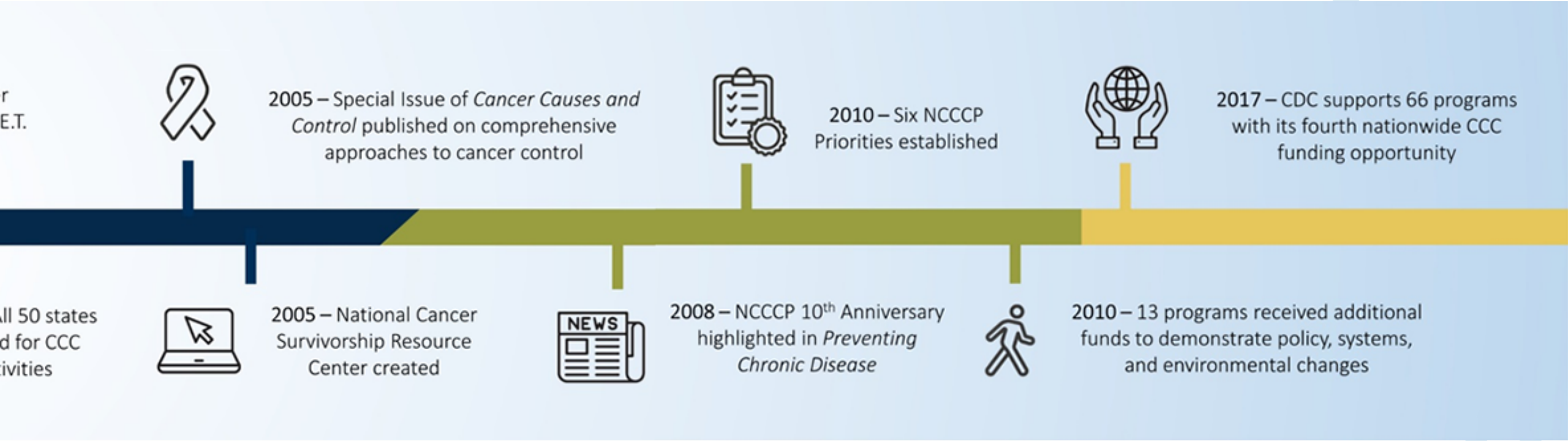
2002-2005

Historical Tool cont.



2005-2017

Historical Scroll cont.



2018- 20th Anniversary Celebration

In Fall 2018, CDC welcomed almost 200 individuals to Atlanta to celebrate 20 years of the NCCCP. Attendees included program awardees from health departments, organizations, and cancer coalitions across the United States, national partners, CDC staff, and others involved in the comprehensive cancer control mission.

Coalitions are our backbone

Of coalitions in the U.S.,

- 72% include partners in local, state or national government
- 94% include members of professional organizations
- 76% in people who make laws or local policies
- 95% include members from colleges or hospitals
- 85% include people from local businesses
- 100% include public health program workers

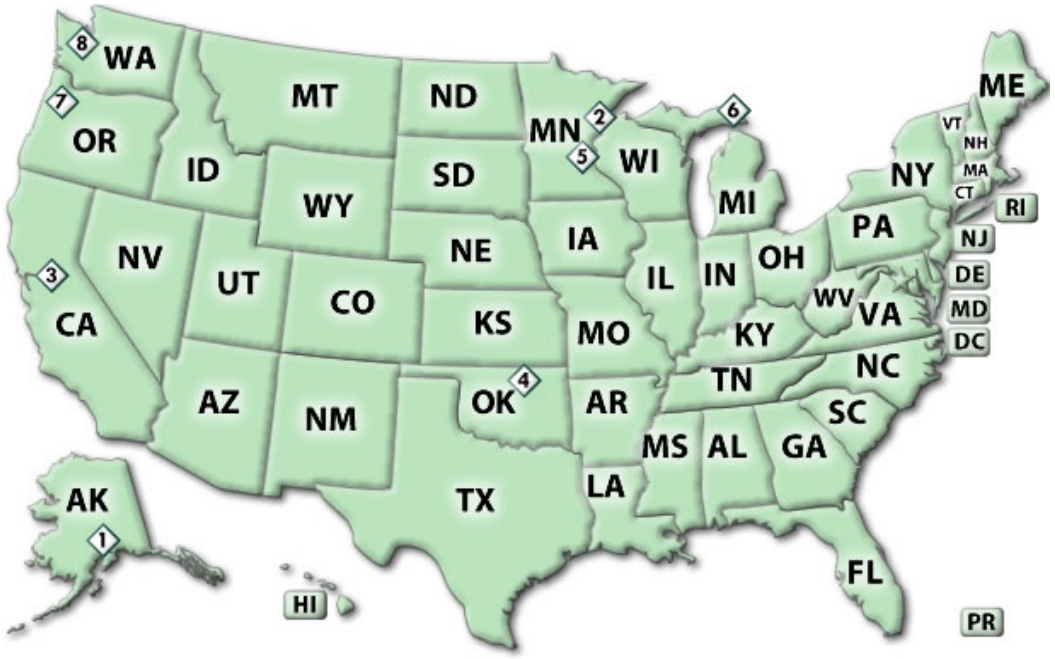
NATIONAL
Comprehensive Cancer Control
PROGRAM

Collaborating to Conquer Cancer

CCC Plans

Every coalition creates a plan to guide its activities by looking at:

- Common types of cancer unique to each community that have the highest burden and include strategies that have worked in other places to help prevent and control those cancers.
- Risks that can lead to cancer
- CDC supports cancer plans in:
  - 50 states and DC
  - 7 US PIJs
  - 8 tribes and tribal organizations



Priorities

CDC has six priorities for the CCC programs it funds.

- Stress **primary prevention**, or making healthy choices to stop cancer before it starts
- Help people **find cancer early** by getting screened at the right time
- Support **people diagnosed with cancer** (survivors) through their treatment and beyond

+ 3 Cross-Cutting Priorities

Primary Prevention

We can prevent cancer by—

- Promoting and providing **vaccines** that prevent cancer.
  - Example: Human papillomavirus (HPV) vaccine or Hepatitis B vaccine
- Supporting environmental approaches that make healthy choices easier where we live, play, and work.
  - Example: Smoke-free policies
- Empowering and educating people to make **healthy lifestyle choices** related to—
  - Tobacco use
  - Nutrition
  - Physical activity

Promoting Early Detection and Treatment of Cancer

Activities that promote early detection and treatment of cancer include—

- Providing **education** and **community outreach activities** to encourage screening.
- Supporting **patient navigators** and **community health workers** who help remove barriers to accessing cancer information, services, and treatment.
- **Working within health systems** to improve quality of services.

Supporting Cancer Survivors and Caregivers

Comprehensive cancer control programs address the needs of cancer survivors and their caregivers using—

- **Surveillance** to routinely assess the needs of cancer survivors.
- **Education programs** to help survivors, caregivers, and providers make informed decisions.
- **Patient navigation systems** to optimize treatment and care.
- **Policies and systems changes** to improve access to palliative care and other cancer resources or services.

Cross-Cutting Priorities

NCCCP awardees strengthen their program activities by incorporating the following **cross-cutting priorities** in their strategies and approaches.

- PSE approaches:
  - **Policies** to protect communities from harmful agents or elements (such as indoor tanning policies to limit exposure to ultraviolet rays or smoke-free policies to limit exposure to secondhand smoke).
  - **Systems** to increase the use of client reminders to get people screened for cancer, or to increase access to healthy food choices in schools and workplaces.
  - **Environments** to encourage communities to be active (such as pedestrian-and bike-friendly streets).
- Health equity approaches:
  - Training and maintaining a **culturally competent workforce,** including patient navigators, community health workers, and other public health practitioners, to tailor interventions for underrepresented and underserved groups.
  - Promoting **equitable access to resources,** like quality and affordable screening, treatment, and care options.
  - Improving data measurement in **research and surveillance,** and using that data to guide community-driven plans.
- Program evaluation drives public health decision making and identifies what works and where resources need to be invested.

Cancer Control Nationwide

CCC National Partnership

- While states, territories, and tribes have coalitions, there is also a national group working to strengthen efforts across the country to control and prevent cancer.
- CDC is one of 18 members of the **Comprehensive Cancer Control National Partnership**.
- The partnership assists CCC coalitions in developing, implementing, and evaluating CCC plans at the state, tribe, territory, U.S. Pacific Island Jurisdiction and local levels.

Liver Cancer Prevention and NCCCP Planning

Liver Cancer Prevention and NCCCP Planning

- In 2010 and 2015, CDC conducted focused reviews of NCCCP awardees' CCC plans to identify goals, strategies, and activities related to liver cancer prevention.
  - Most CCC plans did not address the connection between chronic HBV or HCV infections and liver cancer.
  - A few CCC plans mentioned prevention activities to reduce the burden of liver cancer.
- Programs with large Asian/Pacific Islander populations more commonly reported addressing HCC.
- Some plans targeted specific populations, including American Indians and Alaska Natives.

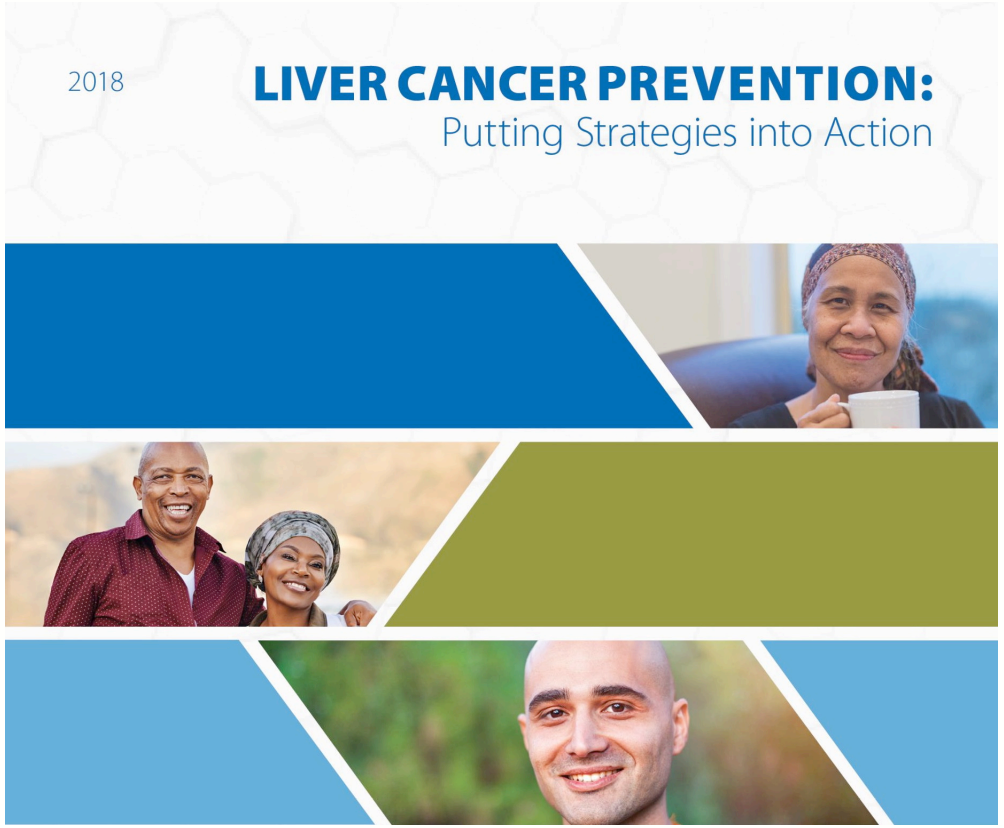
Promising Strategies for Liver Cancer Prevention: Evidence From the Field

Promising Strategies for Liver Cancer Prevention: Evidence From the Field

- To supplement the 2015 review of CCC plans, CDC conducted a review of published literature to identify additional liver cancer prevention strategies related to HBV and HCV that could potentially be implemented by NCCCP awardees and coalitions moving forward.
- The strategies identified were organized by the 2010 Academy report's four categories of recommendations for chronic HBV and HCV prevention and control.

Evidence from the Field (cont.)

- For more detailed findings from the 2015 review of CCC plans and published literature:
  - Momin et al. 2018 (published in Cancer Causes & Control)
  - Centers for Disease Control and Prevention. *Liver Cancer Prevention: Putting Strategies Into Action*. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2018.



Putting Strategies Into Action: Highlights From NCCCPs

Highlights From NCCCPs

- From May 2017 through April 2018, two NCCCP awardees worked in partnership with CDC to plan and implement HBV- and HCV-related liver cancer prevention activities that aligned with recommendations in the 2010 report.

Purpose of the activities:

- To increase awareness and knowledge among healthcare providers, public health professionals, and community coalition members about the need to address viral hepatitis as a key risk factor for liver cancer.

Anticipated outcome:

- To identify promising strategies for liver cancer prevention that can be adopted and implemented across NCCCP settings and contexts.

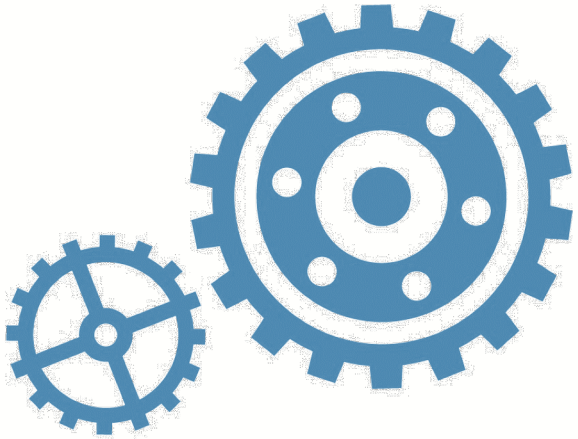
Highlights From NCCCP Programs (cont.)

- Steps for putting liver cancer prevention strategies into action:
  1. Assess the burden and define the need.
  2. Choose the relevant strategy (or strategies).
  3. Identify key partners needed to implement the strategy successfully.
  4. Implement the strategy.
  5. Measure success through evaluation.

Idaho Department of Health and Welfare

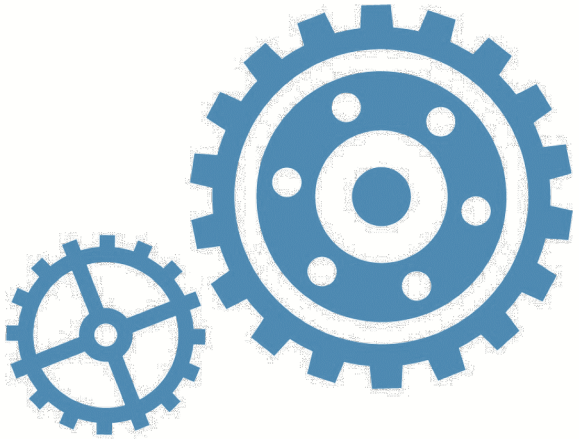
Background and Context

- The Idaho Comprehensive Cancer Control Program (ICCCP) works to address cancer through prevention, early detection, and survivorship activities. ICCCP's efforts help to:
  - Reduce cancer risk;
  - Find cancers earlier;
  - Improve treatments;
  - Increase the number of people who survive cancer; and
  - Improve the quality of life for cancer survivors.



Need

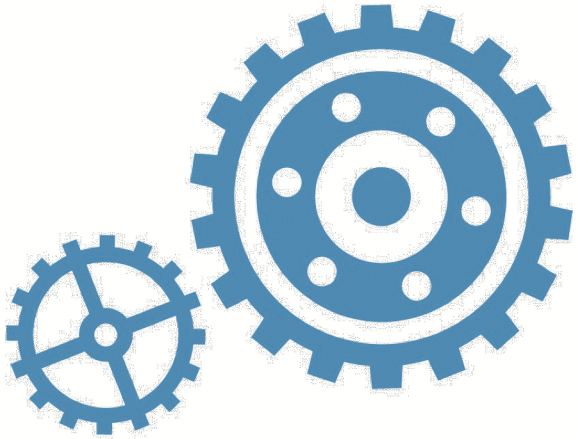
- Cancer has been the leading cause of death in Idaho since 2008, ahead of national trends.
  - 2,789 Idahoans died from cancer in 2015.
- Liver cancer is ranked ninth for cancer mortality in Idaho.
  - The mortality rate was 5.3 deaths per 100,000 Idahoans.[22]
- The rates of hepatitis B birth dose in Idaho decreased from 2014 to 2015.
  - Hepatitis B birth dose rates are below the Comprehensive Cancer Alliance for Idaho's 85% goal.



Partnerships

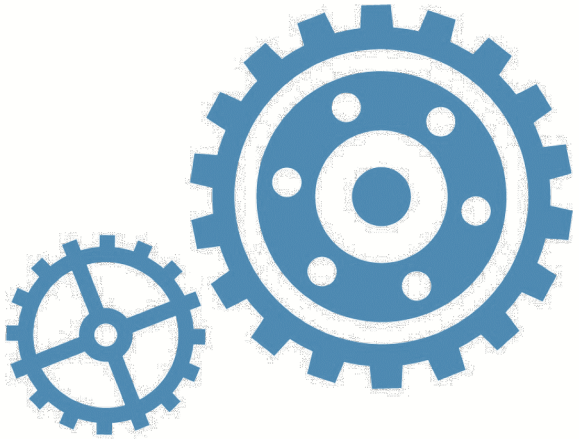
- ICCCP initiated a cross-bureau partnership with the Idaho Immunization Program (IIP) in April 2017.

- The groups collaborated to plan, implement, and evaluate activities intended to increase awareness and knowledge among the general public and healthcare providers about the importance of hepatitis B vaccination in preventing liver cancer.



Program Strategies

- ICCCP and IIP implemented liver cancer prevention strategies from August 2017 to December 2017.
- The strategies aligned with two categories of recommendations from the 2010 IOM report:
  - Provider and community education
  - Immunization



Liver Cancer Prevention Methods and Strategies Implemented by ICCCP and IIP

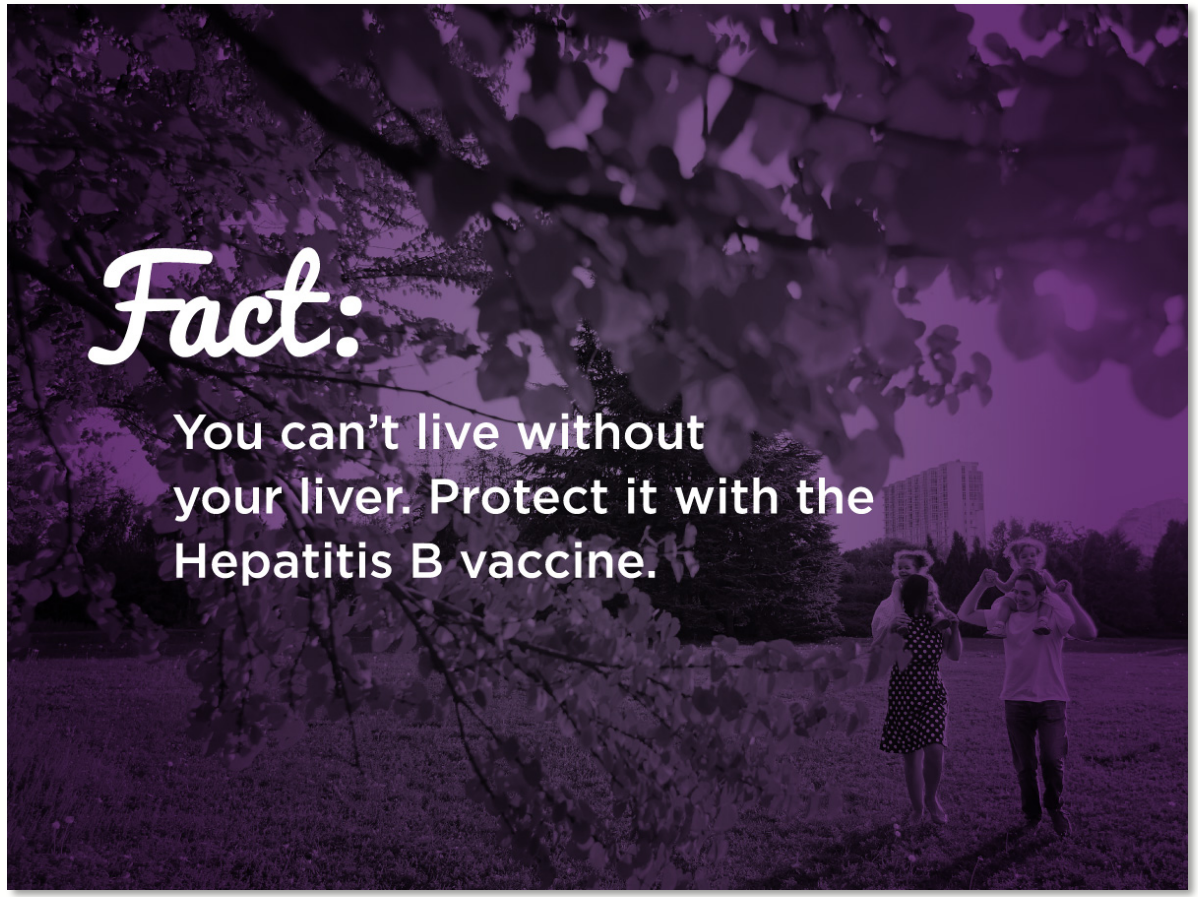
Strategy	Description	Completed Surveys/ Attendees	Participants	Length in Practice
Conduct Social Media Campaign	Developed content for social media use to provide information and education to the general public	N/A[1]	General Public	N/A[1]
Facilitation of Provider Education Sessions	Six provider education presentations were conducted within the state of Idaho including in Twin Falls, Idaho Falls, McCall, Caldwell, Ponderay and Lewiston	163/291	Participants represented various sectors of vaccine administration*: 76/163 – Private Practice 50/163 – Public Clinic 16/163 – Public Health District 10/163 – Hospital 2/163 – School 28/163 – "Other", respondents stated FQHC, Family Practice, Tribal Health, Urgent Care, Juvenile Corrections among some of the responses	2 weeks – 38 years (median of 8.8 years in practice)

1Not applicable to this strategy

*Respondents could select multiple options

Examples of Materials Developed

Graphics Developed for Print and Social Media Campaign



Examples of Materials Developed (cont.)

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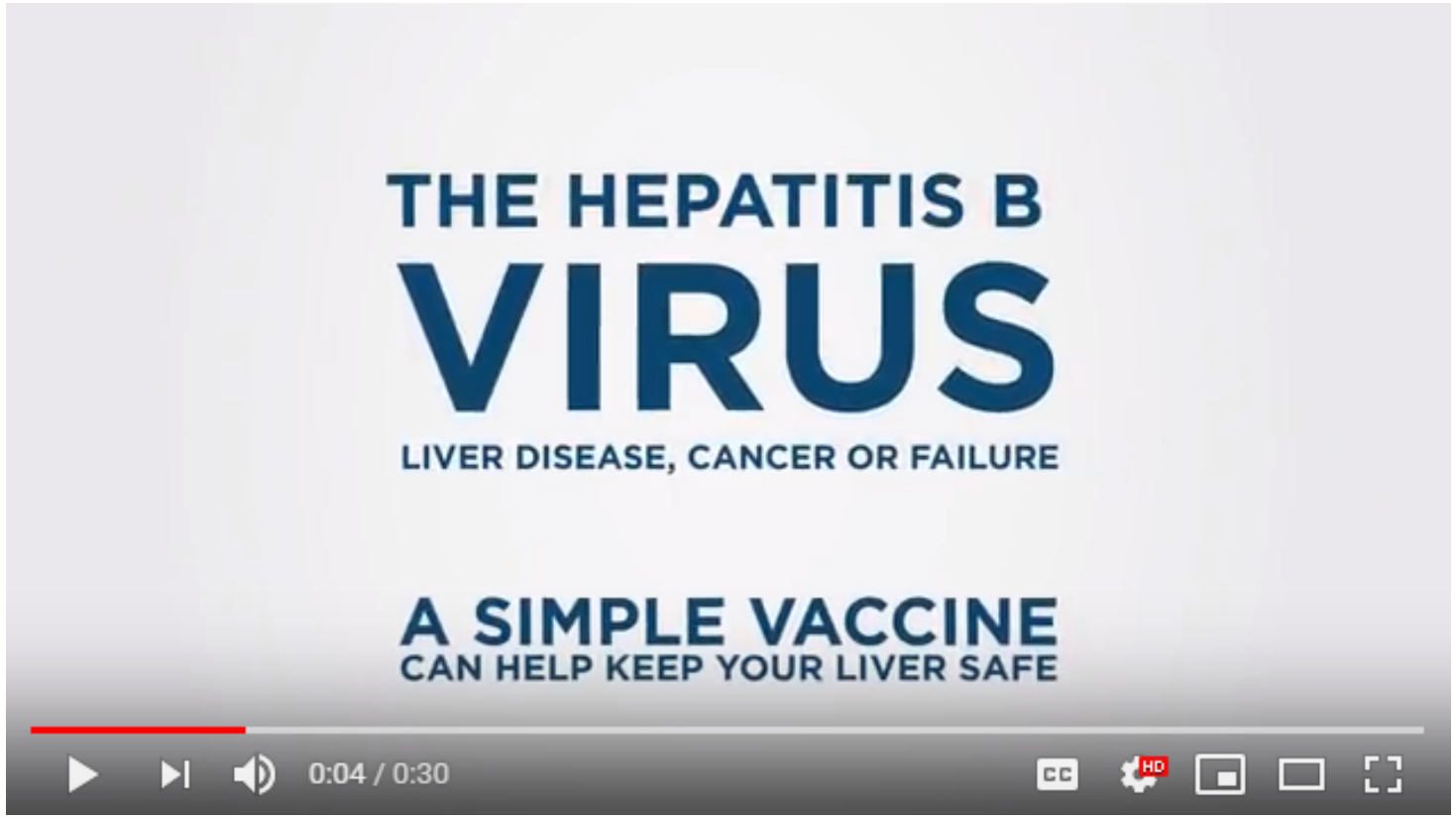


Evaluation

- Using data from Facebook insights, ICCCP and IIP staff reviewed reach measures monthly for each post.
- Definitions for Facebook measures are:
  - 1) lifetime post total reach (the total number of people the page post was served to);
  - 2) lifetime post organic reach (the number of people who saw the page post in news feed or ticker, or on the page's timeline);
  - 3) lifetime post paid reach (the number of people the advertised page post was served to).
- For the healthcare provider presentations, ICCCP presented information on liver cancer general knowledge and ways to increase HBV vaccination rates in practice at each Booster Shots workshop. Content for the presentation included graphics from the new social media and print campaigns as well as information from the Cancer Data Registry of Idaho and CCAI strategic plan.
- ICCCP **assessed participants'** changes in awareness, knowledge, ability, and intention to implement liver cancer prevention strategies through the administration of a brief, retrospective pre-then-posttest survey.
- Process data was also collected.

Results: Social Media Campaign

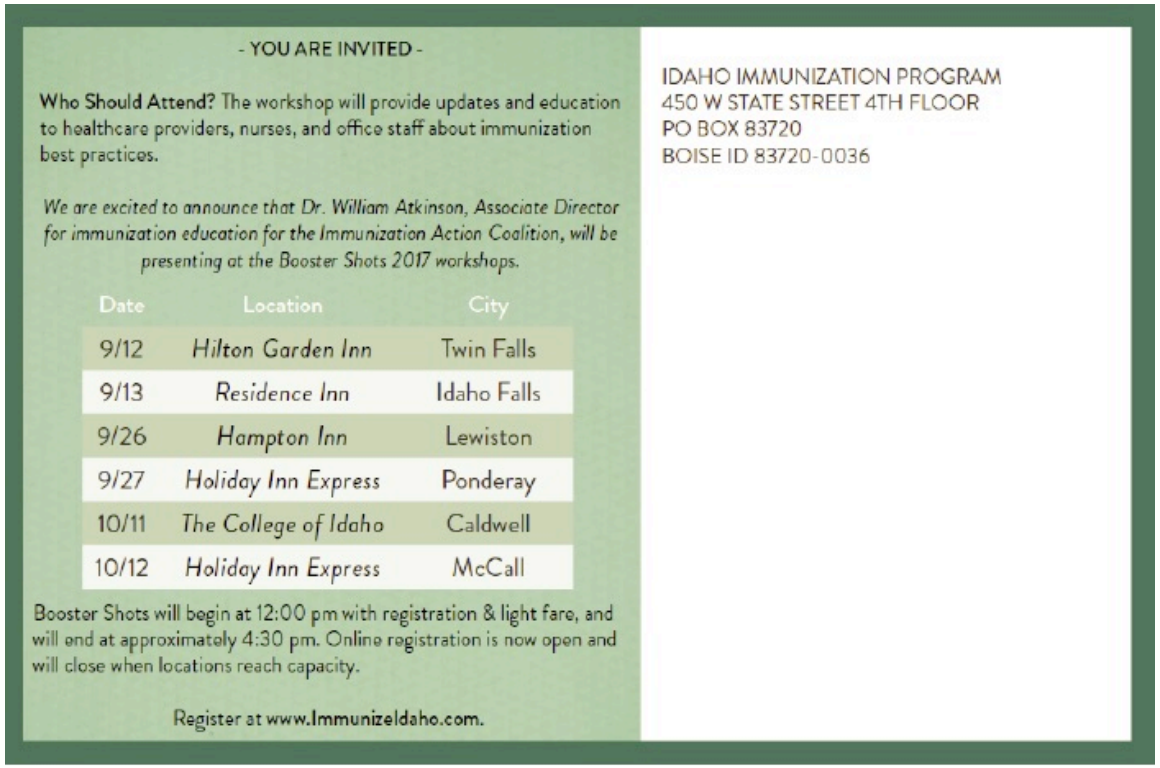
- Total of 32 liver cancer and hepatitis B vaccination posts on Facebook pages.
- Of those posts, 28 were classified as photos, 3 were links and 1 video
- Reached 43,910 unique users (lifetime post total reach)
- Of those, 11,251 users were reached organically (lifetime post organic reach) and 31,553 users were reached through paid posts (lifetime post paid reach).
- Lifetime post total reach (both organic and paid) ranged from 67-11,201 users per post.
- The two posts with the highest lifetime post total reach were distributed in November and boosted.
- The posts that reached the greatest number of organic users were photos with the highest organic post reaching 1,402 unique users.

Results: Print Materials

- Print materials were available for order via HealthTools beginning August 2017.
- Over the course of the pilot program, 214 items were distributed with 196 of these being ICCCP developed posters.
- Posters were primarily distributed via an informational table at Booster Shots events.

Results: Provider Education Presentations

- 291 attendees: vaccine administrators, coordinators, handlers
- 6 locations (Twins Falls, Idaho Falls, Lewiston, Ponderary, Caldwell, McCall



- YOU ARE INVITED -

Who Should Attend? The workshop will provide updates and education to healthcare providers, nurses, and office staff about immunization best practices.

We are excited to announce that Dr. William Atkinson, Associate Director for immunization education for the Immunization Action Coalition, will be presenting at the Booster Shots 2017 workshops.

Date	Location	City
9/12	*Hilton Garden Inn*	Twin Falls
9/13	*Residence Inn*	Idaho Falls
9/26	*Hampton Inn*	Lewiston
9/27	*Holiday Inn Express*	Ponderay
10/11	*The College of Idaho*	Caldwell
10/12	*Holiday Inn Express*	McCall

Booster Shots will begin at 12:00 pm with registration & light fare, and will end at approximately 4:30 pm. Online registration is now open and will close when locations reach capacity.

Register at www.Immunizeldaho.com.

IDAHO IMMUNIZATION PROGRAM
450 W STATE STREET 4TH FLOOR
PO BOX 83720
BOISE ID 83720-0036

Pre- and Post-test Intervention Scores for Healthcare Provider Presentations

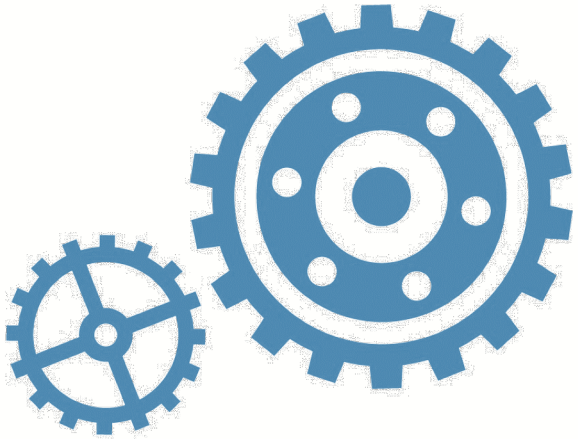
Change in Awareness	Pre-test*	Posttest*	Mean Change
Liver cancer statistics for Idaho (e.g., incidence, prevalence)	1.88	4.17	2.29
The relationship between HBV and liver cancer	2.88	4.30	1.42
HBV and liver cancer patient/public education resources developed by the Idaho Comprehensive Cancer Control Program	1.93	4.26	2.33
Change in Knowledge	**Pre-test***	**Posttest***	**Mean Change**
Ways to prevent liver cancer	2.83	4.06	1.23
HBV infection vaccination dose guidelines	3.92	4.45	0.53
Change in Ability	**Pre-test***	**Posttest***	**Mean Change**
Remind providers that patients are due for HBV infection vaccination	3.98	4.41	0.43
Remind patients that they are due for HBV infection vaccination	4.09	4.43	0.34
Change in Intention	**Pre-test***	**Posttest***	**Mean Change**
Recommend HBV vaccination at birth	4.34	4.68	0.34
Track HBV vaccination data	3.97	4.53	0.56
Remind providers that patients are due for the HBV vaccine	4.43	4.77	0.34
Remind patients that they are due for the HBV vaccine	4.51	4.89	0.38
Order/utilize HBV and liver cancer patient/public education resources developed by the Idaho Comprehensive Cancer Control Program	2.54	4.34	1.8

*Participants scored their awareness, knowledge, ability and intention on pre- and posttests using a Likert scale from 1-5 with 5 being the highest score for each variable measured.

Measuring Success

- Increased knowledge and awareness of liver cancer and hepatitis B vaccination trends in Idaho among healthcare providers.

- Increased intention among healthcare providers to implement evidence-based interventions to increase vaccination, and utilize existing resources to educate patients and promote hepatitis B vaccination.



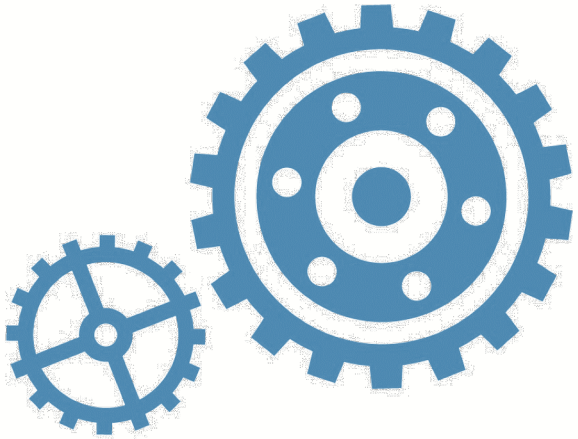
Facilitators and Challenges in Planning and Implementation

Provider and Community Education and Immunization

Activity	Facilitators	Challenges
Pilot implementation	• ICCCP and IIP are housed within the same division	• N/A
Print and social media campaign	• Access to an external marketing firm	• Delays in development of print and social media. • Negative comments on social media posts related to hepatitis B vaccination in newborns.

Lessons Learned

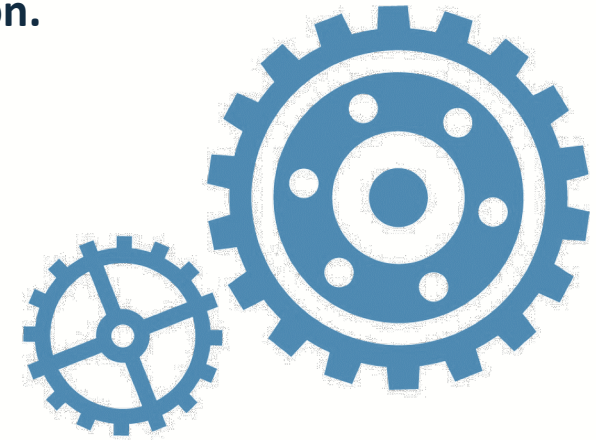
- Identify opportunities to engage healthcare providers.
- Utilize social media as a resource-efficient way to disseminate liver cancer prevention messages.
- Determine an approach for responding to negative feedback before posting social media content related to hepatitis B vaccination.
- Consider audience preferences for receipt of educational materials prior to development.



Implications for Public Health

Implications for Public Health

- Implications for NCCCP awardees, cancer control community, including cancer control coalitions and health care providers
- An example of the impact that provider and community education interventions can have on improving **knowledge and awareness** of liver cancer among health care providers and community coalitions.
- The findings also indicate the impact of these interventions in improving a provider's **ability to identify at-risk patients,** as well as their **improved intent to speak with patients** about HCC risk and recommend screening for at-risk patients.
- Additionally, the results indicate the positive impact of these interventions in improving a **community member's ability to speak with a healthcare provider about liver cancer** risk and prevention, as well as their **improved intent to speak with a healthcare provider about screening for HCV infection.**

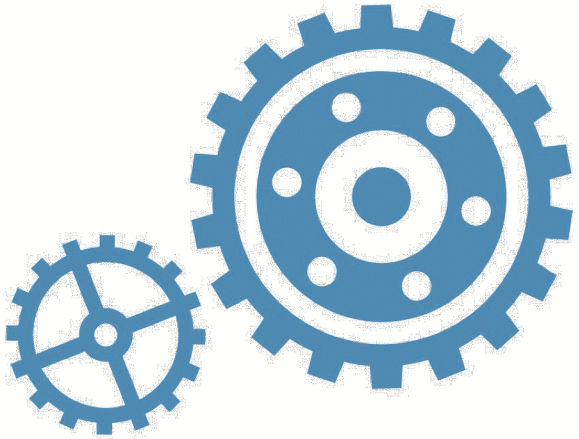


Implications for Public Health (cont.)

- NCCCP awardees are encouraged to:
  - Build and diversify their work in addressing viral hepatitis as a key risk factor for liver cancer.
  - Stay abreast of other emerging trends contributing to the increasing incidence of liver cancer and liver cancer-related deaths:
    - Continued growth of opioid epidemic and injection drug use
    - Rising HCC death rates due to alcohol-induced disease
    - Increases in obesity and type 2 diabetes
  - Draw from the successful partnership models employed by Idaho and Cherokee Nation to identify and engage partners for putting liver cancer prevention strategies into action.

Resources

- CDC's Liver Cancer Website
- USCS Data Brief
- Putting Strategies into Action
- Promising Practices for Liver Cancer Prevention
- Cherokee Nation findings (accepted to PCD)
- Idaho findings (manuscript under CDC review)



Acknowledgments

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- Spencer Schaff, MPH, Research Associate
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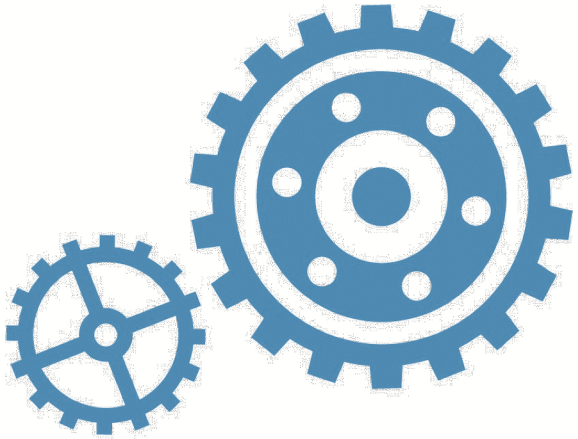
- Annette Maxwell, DrPH, Project Consultant



Acknowledgments (cont.)

Cherokee Nation Health Services

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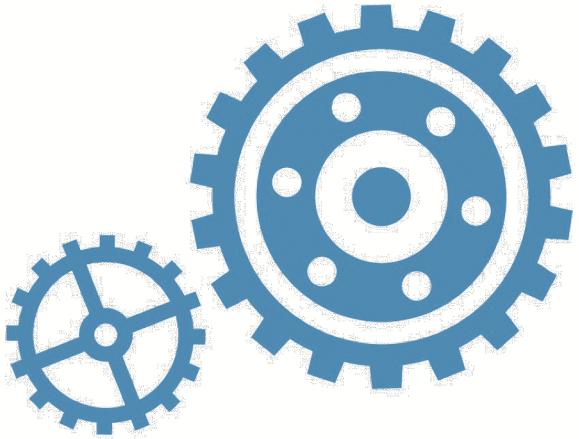
- Jorge Mera, MD, Director of Infectious Diseases

Idaho Department of Health and Welfare

- Charlene Cariou, MHS, CHES, Comprehensive Cancer Control Program Manager
- Josie Graham, MPA, Cancer and Environmental Health Section Manager
- Mezelle Moore, MPH, Outreach Manager, Idaho Immunization Program
- Tamarie Olson, Vaccine Operations Manager, Idaho Immunization Program



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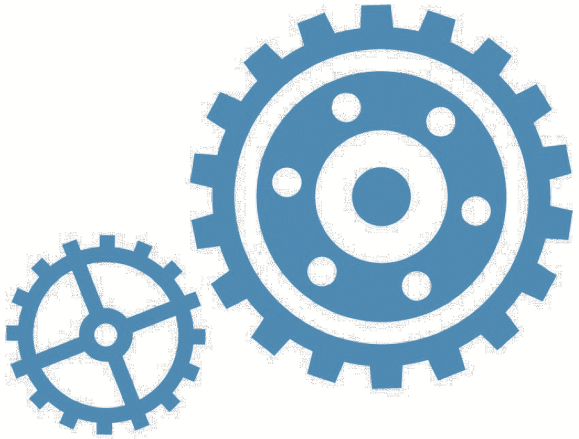

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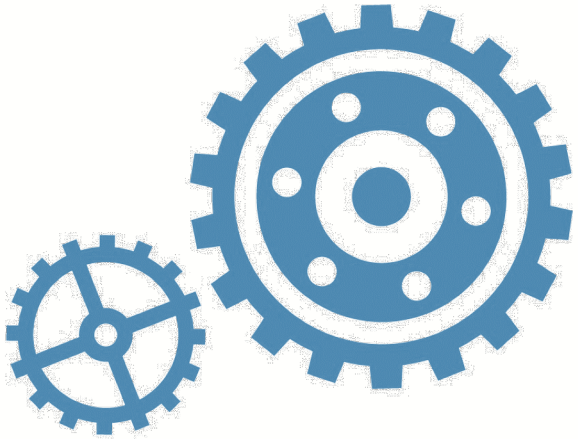

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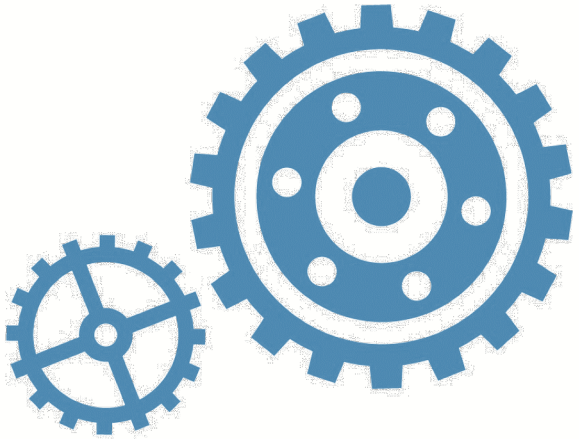

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